

REMARKS

Claims 1-42 are pending in this application. By this Amendment, claims 1, 4, 6, 7, 9, 12, 15, 17-20, 23, 26, 28, 29 and 31 are amended. New dependent claims 34-42 are added to recite additional features disclosed in the specification at, for example, paragraph [0049].

Reconsideration of the application is respectfully requested in light of the foregoing amendments and the following remarks.

The Office Action rejects claims 1, 4, 5, 12, 15, 16, 23, 26 and 27 under 35 U.S.C. §103(a) over U.S. Patent No. 6,631,348 to Wymore in view of U.S. Patent No. 6,148,105 to Wakisaka et al. This rejection is respectfully traversed.

The Office Action acknowledges that Wymore does not disclose or suggest eliminating noise using predetermined noise elimination method. However, the Office Action asserts that Wakisaka discloses this feature. Applicant respectfully submits that Wymore and Wakisaka, either individually or in combination, do not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23.

Wymore discloses a speech recognition process executed for a plurality of ambient noise level ranges. See col. 4, lines 1-9, 18-27, and 48-57. Wymore discloses noise levels, but fails to disclose or suggest noise types. Thus, Wymore does not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23.

The Office Action asserts, in section 3 on page 3 of the Office Action, that Wymore discloses at col. 4, lines 18-27, acoustic models corresponding to types of noise and a plurality of S/N ratios for each noise type. However, Applicant respectfully submits that Wymore's disclosure at col. 4, lines 18-27 merely describes noise level ranges. As is known in the art, different noise levels represent different magnitudes of the noise, but does not

represent different characteristics, such as spectral characteristics, of the noise. On the other hand, different noise types represent different characteristics, such as spectral characteristics, of different noises, even if the different noises have the same noise level. (See the specification at, for example, paragraph [0006]). Thus, by merely disclosing different noise levels, Wymore does not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23.

Wakisaka discloses a system designed to recognize noise types. See col. 5, lines 25-35 and col. 13, lines 42-48. Wakisaka discloses noise types, but does not disclose or suggest noise levels. Thus, Wakisaka does not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23. Therefore, Wakisaka does not supply the subject matter lacking in Wymore.

In addition, as discussed above, noise levels which represent magnitudes of noise are a concept that is different from noise types which represent different characteristics, such as spectral characteristics, of different noises. Thus, Wymore's process treating different noise levels and Wakisaka's system recognizing different noise types, when viewed together, do not disclose or suggest how to solve the problems when both noise levels and noise types are intertwined. There is no indication in Wymore and Wakisaka on creating acoustic models corresponding to each of a plurality of S/N ratios for each of the noise types, as recited in claims 1, 12 and 23.

For at least the above reasons, Wymore and Wakisaka do not disclose or suggest the subject matter recited in claims 1, 12 and 23, and claims 4, 5, 15, 16, 26 and 27 depending therefrom. Withdrawal of the rejection of claims 1, 4, 5, 12, 15, 16, 23, 26 and 27 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action rejects claims 2, 13 and 24 under 35 U.S.C. §103(a) over Wymore in view of Wakisaka and in further view of U.S. Patent No. 6,510,408 to Hermansen. This rejection is respectfully traversed.

Hermansen discloses noise reduction using spectrum subtraction. See col. 3, line 55 - col. 4, line 5. Hermansen does not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23. Thus, Hermansen does not supply the subject matter lacking in Wymore and Wakisaka. Thus, Wymore, Wakisaka and Hermansen do not disclose or suggest the subject matter recited in claims 1, 12 and 23, and claims 2, 13 and 24 depending therefrom. Accordingly, withdrawal of the rejection of claims 2, 13 and 24 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action rejects claims 3, 14 and 25 under 35 U.S.C. §103(a) over Wymore in view of Wakisaka and in further view of U.S. Patent No. 5,890,113 to Takagi. This rejection is respectfully traversed.

Takagi discloses a speech recognizer using a time series of feature vectors of a reference speaker's speech. See col. 3, lines 45-51. Takagi does not disclose or suggest acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types, as recited in claims 1, 12 and 23. Therefore, Takagi does not supply the subject matter lacking in Wymore and Wakisaka. Thus, Wymore, Wakisaka and Takagi do not disclose or suggest the subject matter recited in independent claims 1, 12 and 23, and dependent claims 3, 14 and 25 depending therefrom. Accordingly, withdrawal of the rejection of claims 3, 14 and 25 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action rejects claims 6-8, 17-19 and 28-30 under 35 U.S.C. §103(a) over Wymore in view of Hermansen and further in view of Takagi. This rejection is respectfully traversed.

Claims 6-8, 17-19 and 28-30 each recite acoustic models corresponding to each of a plurality of S/N ratios of each of the noise types. As discussed above in connection with the rejection of claims 1, 12 and 23, Wymore, Hermansen and Takagi do not disclose or suggest this feature. Therefore, Wymore, Hermansen and Takagi do not disclose or suggest the subject matter recited in claims 6-8, 17-19 and 28-30. Accordingly, withdrawal of the rejection of claims 6-8, 17-19 and 28-30 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action rejects claims 9, 10, 20, 21, 31 and 32 under 35 U.S.C. §103(a) over U.S. Patent Application Publication 2003/0036902 to Gadde in view of Wakisaka; and claims 11, 22 and 33 under 35 U.S.C. §103(a) over Gadde in view of Wakisaka and further in view of Takagi. Applicant respectfully submits that Gadde does not qualify as a prior art reference.

Gadde was filed on August 15, 2001. The present application claims priority based on the filing date of October 23, 2000 of JP 2000-322914. (See the attached courtesy copy of the Declaration filed on December 31, 2001). A translation of the certified copy of the priority document is attached. This translation is an accurate translation of the certified copy of the priority document.

In view of the above, Gadde was filed after the priority date claimed in the present application. Thus, Gadde does not qualify as a prior art reference. Accordingly, withdrawal of the rejection of claims 9-11, 20-22 and 31-33 under 35 U.S.C. §103(a) is respectfully requested.

New claims 34-42 are believed patentable at least in view of the patentability of claims 1, 6, 9, 12, 17, 20, 23, 28 and 31, from which they depend, respectively, as well as for the additional features they recite. For example, none of the applied references disclose or suggest a total number of acoustic models that equals the multiplication of a number of noise types and the number of S/N ratios of each of the noise types.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-42 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Amendment Transmittal
Courtesy copy of Declaration
Translation of certified priority document

Date: November 9, 2004

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